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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/507,521	02/18/2000	Min Xie	15-CT-5271	7950
7590 08/27/2004				
John S Beulick Armstrong Teasdale LLP One Metropolitan Square Ste 2600 St Louis, MO 63102-2740			EXAMINER DO, CHAT C	
			ART UNIT 2124	PAPER NUMBER

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Advisory Action**

Application No.

09/507,521

Applicant(s)

XIE ET AL.

Examiner

Chat C. Do

Art Unit

2124

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 06 July 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.
- b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ they raise the issue of new matter (see Note below);
- (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See below.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☒ Newly proposed or amended claim(s) 5,6,13,14,19,20,27,28 and 32-35 would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See below.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.

Claim(s) rejected: 2,3,5-11,13-17,19-25 and 27-37.

Claim(s) withdrawn from consideration: \_\_\_\_\_.

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.

9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s): \_\_\_\_\_.

10. ☐ Other: \_\_\_\_\_

**TODD INGBERG**  
**PRIMARY EXAMINER**

Part 2(a): the applicant amended independent claims 15 and 31 by replacing "a mantissa region" with "an interval" which change its definition. The mantissa region is a region within a mantissa portion of the floating number and the interval is not necessary the region within a mantissa portion.

Part 5(c): After reviewing the arguments by applicant, the examiner believes the cited rejection of previous action is still valid. Therefore, Smith discloses a method in Figure 3 for computing (equation 10) for a natural logarithm function. The method comprises the following steps: partitioning of mantissa (col. 3 lines 65-67 and col. 4 lines 1-5 where  $i$  is the index of that sub-region as described in equation 13) between 1 and 2 into  $N$  equally spaced sub-regions, precomputing a reference point  $a_i$  (col. 4 lines 17-18) of each of  $N$  equally spaced sub-regions where  $i = 0$  to  $N-1$ , selecting  $N$  sufficiently large (col. 4 lines 1-10) so that the first degree polynomial in computation of  $\log(m)$  within a preselected degree of accuracy, and computing (abstract) a value of  $\log(x)$  for binary floating point representation of  $x$  stored in a memory of a computing device. Smith does not disclose the precomputing point  $a_i$  is the centerpoint of each of the sub-region. Smith does not disclose the computation of approximation of  $\log(x)$  using first degree polynomial in  $m$  and the computation of  $\log(x)$  is used to generate an image. However, Watson discloses a method of determining a value using a mid-point within a region for minimizing the error (col. 10 lines 30-35) and the computation is used to generate an image. In addition, it is well known in the art to use Taylor series to approximate a value. In order to minimize the computation process, the approximation of  $\log(m)$  using Taylor series is utilizing the first degree polynomial of the Taylor series. Therefore, it would have been obvious to a person having ordinary skill in the art to use first order Taylor series to approximate the  $\log(m)$  function, using the mid-point  $a_i$  as the preference point, and the computation is used to generate an image as seen in Watson's invention into Smith's invention because it would enable to reduce the computation time and the region error.



**TODD INGBERG**  
**PRIMARY EXAMINER**